

WHAT IS CLAIMED IS:

1. An LED chip lamp apparatus, comprising:
  - a heat sink with a reflector;
  - an LED lamp module assembled in an inside of the reflector for reflecting
  - 5 light of the LED lamp module; and
  - a heat pipe having two ends, one end thereof connecting to the LED lamp module and the other end thereof connecting to the heat sink for transmitting heat of the LED lamp module.
2. The LED chip lamp apparatus of the claim 1, wherein the heat sink has
- 10 a semi-elliptic shaped open end formed inside of one end of two ends thereof and a receiving portion shrinkingly formed inside of another end of the two ends thereof, and wherein the LED lamp module is positioned in a center portion inside the open end and extendedly retained in the receiving portion.
3. The LED chip lamp apparatus of the claim 2, wherein the heat sink has
- 15 a through hole communicated with the receiving portion, one end of the heat pipe extending through the through hole to connect the LED lamp module, and another end of the heat pipe connecting to the heat sink.
4. The LED chip lamp apparatus of the claim 1, wherein the heat sink comprises a reflector housing and a heat conductor, the heat conductor
- 20 surrounding an outside of the reflector housing, and one end of the heat pipe connecting to the heat conductor.
5. The LED chip lamp apparatus of the claim 4, wherein the heat conductor has a concavity in a sidewall thereof for receiving the one end of the heat pipe.

6. The LED chip lamp apparatus of the claim 4, wherein the LED lamp module comprises a heat conduction carrier having a front end and a rear end, the rear end assembled in an inside of the reflector and connected to one end of the heat pipe, a circuit substrate positioned in the front end of the heat conduction carrier, and a plurality of the LED chips in electrical contact on the circuit substrate.

7. The LED chip lamp apparatus of the claim 6, wherein the front end of the heat conduction carrier is a frustum of a pyramid.

8. The LED chip lamp apparatus of the claim 7, wherein the circuit substrate is formed as an unfolded frustum of a pyramid.

9. The LED chip lamp apparatus of the claim 7, wherein the circuit substrate comprises a hexagonal board and six trapezoidal boards respectively connected to six sides of the hexagonal board and covers the front end of the heat conduction carrier.

10. The LED chip lamp apparatus of the claim 7, wherein the circuit substrate comprises a rectangular board and four trapezoidal boards respectively connected to four sides of the rectangular board and covers the front end of the heat conduction carrier.

11. The LED chip lamp apparatus of the claim 7, wherein the circuit substrate comprises a plurality of the trapezoids boards connected in a series and covers the front end of the heat conduction carrier.

12. The LED chip lamp apparatus of the claim 6, wherein the heat conduction carrier has a cavity, one end of the heat pipe being retained in the cavity.

13. AN LED chip lamp apparatus, comprising:

a reflector housing having two ends, one end of the reflector housing being formed as an open end having a semi-ellipsoid shape, and another end having a receiving portion shrinkingly formed inside;

5 a heat conductor positioned outside and surrounding the reflector housing;

a heat conduction carrier having a front end and a rear end, the rear end extending to the receiving portion and being retaining in the receiving portion, the front end positioned inside the open end;

10 a heat pipe having two ends, one end connecting to the heat conduction carrier, and another end being bent and extendedly connecting to the heat conductor;

a circuit substrate positioned on the front end of the heat conduction carrier; and

15 a plurality of LED chips mounted on the circuit substrate.

14. The LED chip lamp apparatus of the claim 13, wherein the circuit substrate is formed as an unfolded frustum of a pyramid.

15. The LED chip lamp apparatus of the claim 13, wherein the circuit substrate comprises a hexagonal board and six trapezoidal boards respectively  
20 connected to six sides of the hexagonal board and covers the front end of the heat conduction carrier.

16. The LED chip lamp apparatus of the claim 13, wherein the circuit substrate comprises a rectangular board and four trapezoidal boards respectively

connected to four sides of the rectangular board and covers the front end of the heat conduction carrier.

17. The LED chip lamp apparatus of the claim 13, wherein the circuit substrate comprises a plurality of the trapezoidal boards connected in a series  
5 and covers the front end of the heat conduction carrier.

18. The LED chip lamp apparatus of the claim 13, wherein the heat conduction carrier has a cavity, and one end of the heat pipe is retained in the cavity.